
City of Montgomery

103 North Perry Street
Montgomery, Alabama 36104



Storm Water Management Program (SWMP) Plan

NPDES Permit No. ALS000004

May 2014

Prepared By:



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 - Recognizing and Reporting Illicit Discharges;
 - Fleet Maintenance;
 - Land Disturbances;
 - Materials Storage and Spill Cleanup;
 - Parks and Grounds Maintenance;
 - Solid Waste Operations; and,
 - Streets and Drainage Maintenance.



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SECTION 2

MS4 Area



2. MS4 Area

2.1. MS4 Characterization

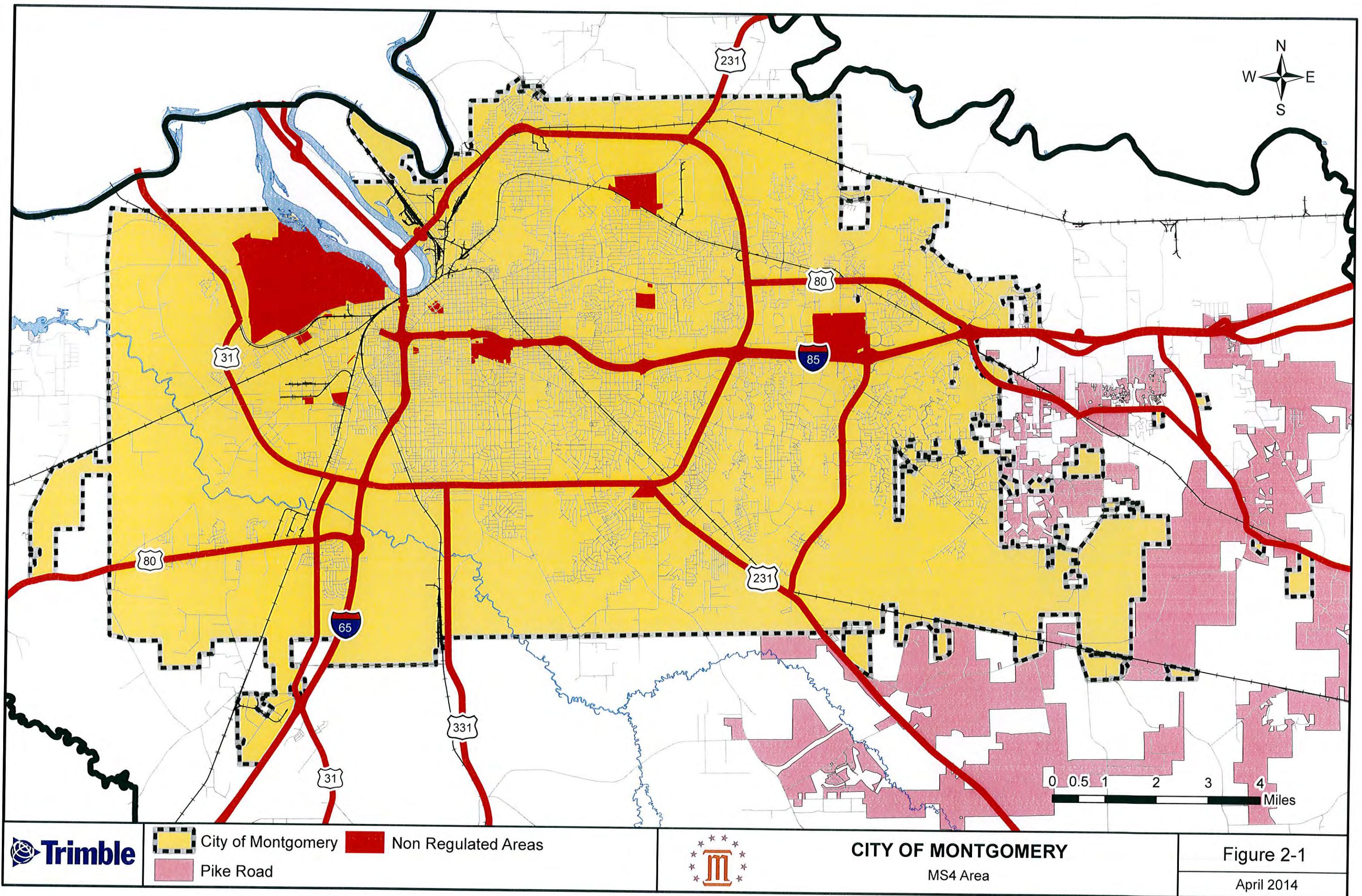
Montgomery is located on the Alabama River in the central part of the state. The City of Montgomery occupies approximately 160.02 square miles along the Alabama River within Montgomery City. The Town of Pike Road is the only city within Montgomery County that shares borders with the City of Montgomery.

There are several federal facilities, state facilities, military bases, universities and state roads located within the City that are exempted from the City's regulations and enforcement authority. The City has initiated an effort to identify and inventory areas of the City that are not part of the MS4. The current inventory is summarized in Table 2-1.

**Table 2-1
Non-Regulated Areas**

| Non-Regulated Area | MS4 NPDES Permit No. |
|--------------------------------------|----------------------|
| Federal Facilities | |
| Maxwell Air Force Base | ALR040035 |
| Maxwell / Gunter Annex | ALR040029 |
| Veterans Administration Hospital | |
| State Facilities | |
| Alabama Department of Transportation | ALS000006 |
| Alabama National Guard | |
| Alabama State Troopers | |
| Universities | |
| Auburn University Montgomery | |
| Alabama State University | |
| Trenholm Technical College | |
| Troy University Montgomery | |

The City of Montgomery's corporate limits, Montgomery County boundary, major roads, major streams, and surrounding communities are presented in **Figure 2-1**.

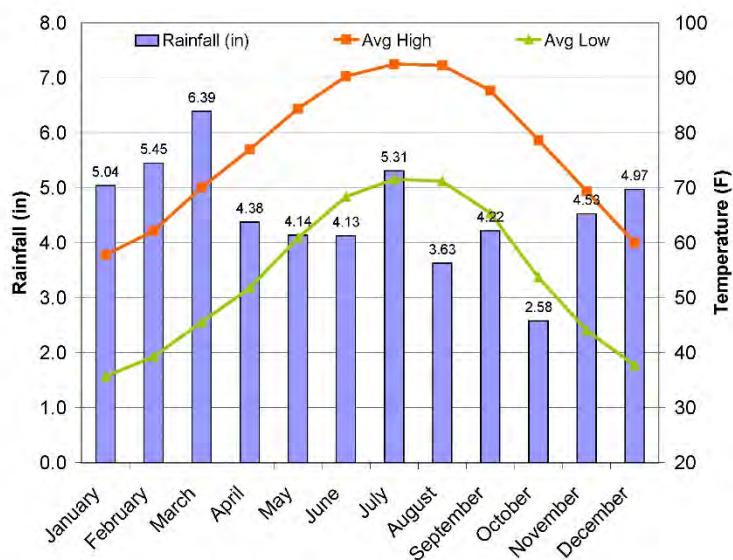




2.1.1. Climate

Montgomery has a humid subtropical climate, with short mild winters, warm springs and autumns, and long hot humid summers. Winter temperatures average 46.6°F in January with lows rarely dipping below 20°F. Summer temperatures average 81.8°F in July with highs exceeding 90°F for more than 75 consecutive days per year. The Montgomery area receives approximately 55 inches of rainfall annually. Rainfall tends to be evenly distributed throughout the year with dryer periods occurring during late summer and early fall. Light snowfall occurs in some winters. Average monthly rainfall is summarized in Figure 2-2. Significant snow fall events are rare in Montgomery.

Figure 2-2
Average Monthly Rainfall



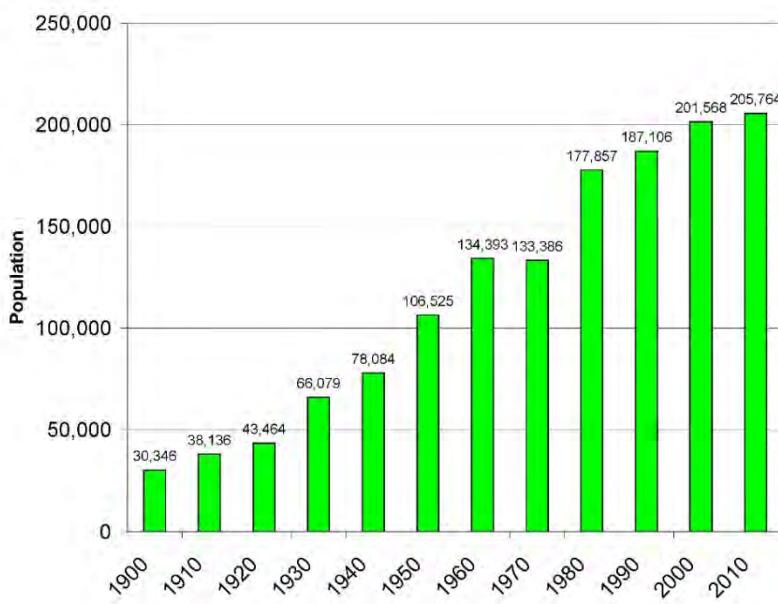
2.1.2. Population

Since the City of Montgomery was incorporated in 1819, the City has experienced a steady increase in population. Figure 2-3 provides a graph showing the historical population of the City since 1900.

The 2010 Census estimated the total population of the City of Montgomery to be 205,764. As compared to the population in 2000 of 201,568, the City has experienced a population increase of 4,196 (approximately 2.1%) over the past 10 years. Based on existing population estimates, the City of Montgomery will soon be the most populated city in Alabama.



Figure 2-3
Historical Population



2.1.3. Watersheds

In order to develop, implement and maintain an effective storm water management program that minimizes pollutant discharges in storm water runoff, it is important for the City to be knowledgeable of the following:

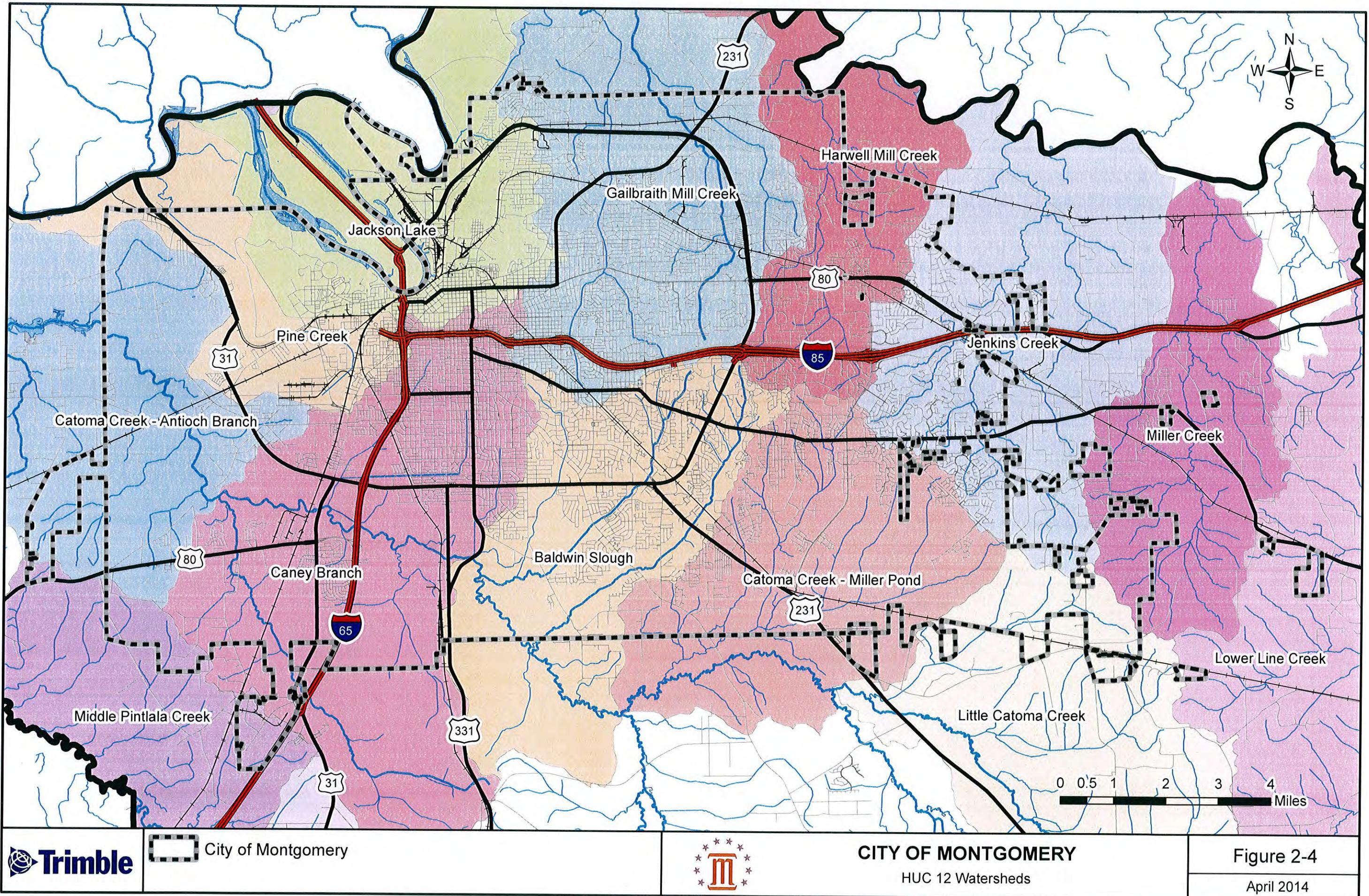
- Major drainage basins within the City;
- Water quality concerns of each drainage basin; and,
- Potential sources of pollutants by land use.

The City of Montgomery is located within thirteen (13) drainage basins that have a 12 digit Hydraulic Unit Classification (HUC-12). The City has further subdivided each HUC-12 watershed into smaller sub watersheds based on the major drainage channels located within the City. The area of the City located within each HUC-12 drainage basin is summarized in Table 2-2 and shown in Figure 2-4.



Table 2-2
HUC 12 Drainage Basins

| HUC 12 Basin | City of Montgomery | |
|-------------------------------|-------------------------|------------------|
| | Area (mi ²) | Area (% of City) |
| Alabama River Basin | 136.23 | 84.5 |
| Caney Branch | 28.61 | 17.7 |
| Gailbraith Mill Creek | 24.32 | 15.1 |
| Baldwin Slough | 19.81 | 12.3 |
| Catoma Creek – Miller Pond | 19.69 | 12.2 |
| Catoma Creek – Antioch Branch | 16.13 | 10.0 |
| Jackson Lake | 12.48 | 7.7 |
| Pine Creek | 8.29 | 5.1 |
| Little Catoma Creek | 4.33 | 2.7 |
| Middle Pintlala Creek | 2.57 | 1.6 |
| Tallapoosa River Basin | 25.01 | 15.5 |
| Harwell Mill Creek | 11.13 | 6.9 |
| Jenkins Creek | 11.11 | 6.9 |
| Miller Creek | 2.31 | 1.4 |
| Lower Line Creek | 0.46 | 0.3 |





2.1.4. Land Use

The City maintains a GIS layer to track zoning and land use throughout the City. Major zoning districts are summarized in Table 2-3.

Table 2-3
Major Land Use Districts

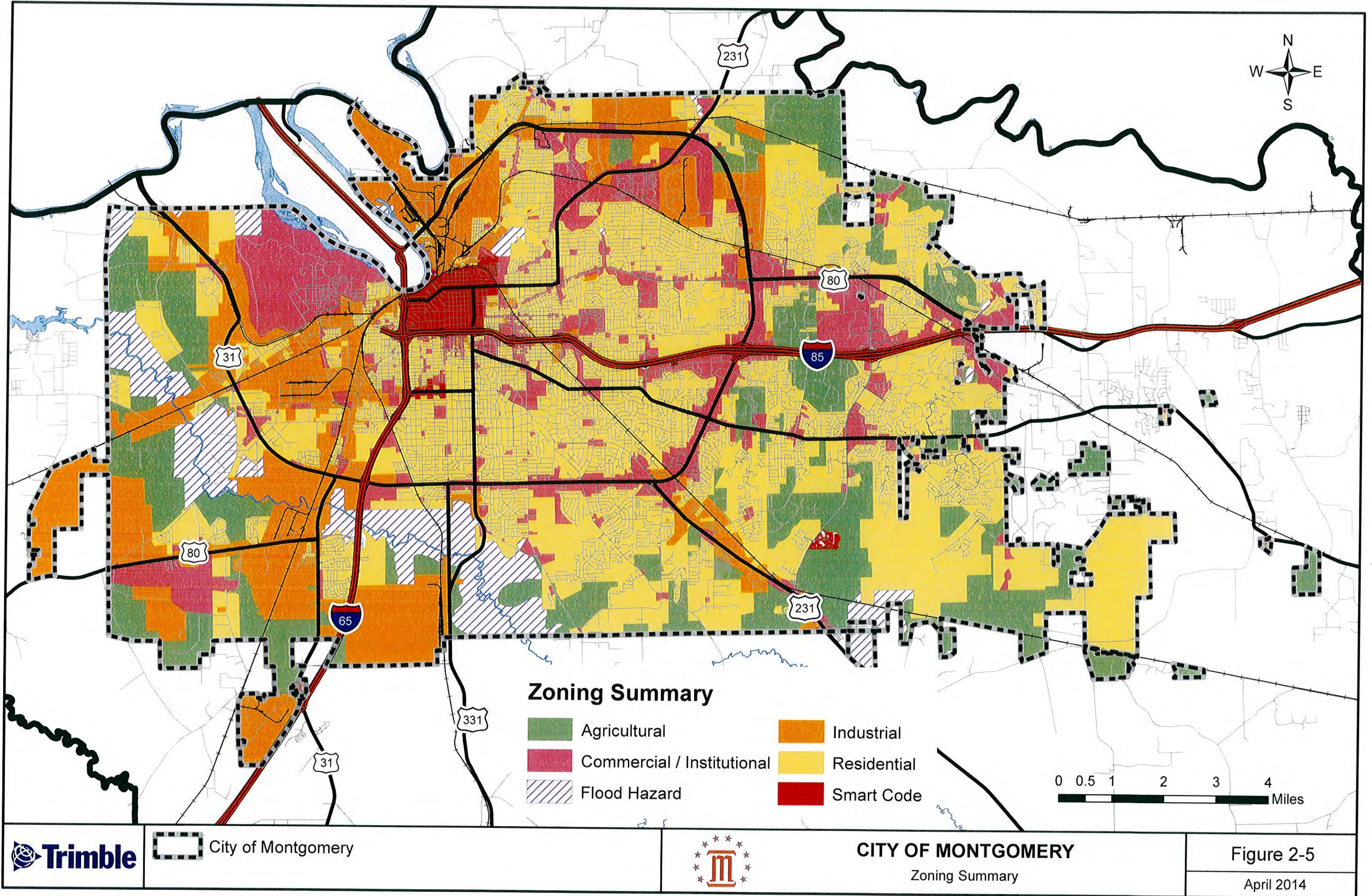
- Agricultural
- Industrial
- Residential
- Commercial
- Institutional
- Waterfront
- Flood Hazard
- Office
- Smart Code

Each major district is further subdivided into more detailed subcategories that characterize specific land use or land cover. Zoning districts for commercial, institutional and office have been combined into commercial / institutional. A summary of the approximate land use within the City is summarized in Table 2-4 and shown in Figure 2-5.

Table 2-4
Land Use Summary

| Use | Area (mi ²) | Area (%) |
|----------------------------|-------------------------|----------|
| Agricultural | 26.94 | 16.6 |
| Commercial / Institutional | 23.48 | 14.5 |
| Flood Hazard | 9.88 | 6.1 |
| Industrial | 30.27 | 18.7 |
| Residential | 69.48 | 42.9 |
| Urban | 1.97 | 1.2 |
| Total | 162.02 | 100.0 |

Overlapping the land use with watershed boundaries will provide the City with the information needed to identify and implement Best Management Practices (BMPs) that are targeted to help improve water quality.





2.2. Known Problems

Section 303(d) of the Clean Water Act (CWA) establishes that states are to identify and list waters (rivers, streams, etc.) for which technology based limits alone do not ensure attainment of applicable water quality standards. The 303(d) list of impaired waters will include a priority ranking for establishment of Total Maximum Daily Loads (TMDLs) for these waters. The state will establish a TMDL that will meet water quality standards for impaired streams, considering seasonal variations and a margin of safety that accounts for uncertainty. TMDLs establish the maximum amount of a pollutant that a water body can assimilate without exceeding water quality standards. Once a TMDL is developed for a water, that water will be removed from the 303(d) list.

2.2.1. 303(d) Listed Streams

According to ADEM's 303(d) list dated 21 May 2012, there are two streams within the City that have been designated as impaired. ADEM's 303(d) listed streams located within the City are summarized in Table 2-5 and shown in Figure 2-6.

Table 2-5
2012 303(d) Listed Streams

| Waterbody | | Designated Use | Pollutant of Concern | Sources |
|-------------------|---------------------|-------------------|---|------------------------------|
| Name | ID | | | |
| Three Mile Branch | AL03150201-0104-302 | Fish and Wildlife | Pathogens Siltation (Habitat Alteration) | Urban Development |
| | | | Pesticides (Dieldrin) | Unknown Source |
| Jenkins Creek | AL03150110-0904-300 | Fish and Wildlife | Siltation (Habitat Alteration) | Urban Runoff Storm Sewers |

Three Mile Branch is approximately 7.65 miles long and has a total drainage basin of approximately 10.81 square miles. The headwaters of Three Mile Branch originate in the City. There is an ongoing Dieldrin remediation project at the Maxwell-Gunter Airforce Base immediately adjacent to Three Mile Branch. It is unknown if this is the primary source of Dieldrin contributing to the impairment on Three Mile Branch.



Jenkins Creek is approximately 13.48 miles long. The headwaters of Jenkins Creek are located in the City of Montgomery and Town of Pike Road.

2.2.2. Approved TMDLs

EPA has approved ADEM's Total Maximum Daily Loads (TMDLs) for selected stream segments on Catoma Creek and an unnamed tributary to Little Catoma Creek. Pollutants of concern for each stream segment are summarized in Table 2-6.

Table 2-6
Approved TMDLs

| Waterbody | | Pollutant of Concern | Date of Approval |
|---------------------------|---------------------|--|------------------|
| Name | Assessment ID | | |
| Catoma Creek | AL03150201-080-01 | Organic Enrichment Low Dissolved Oxygen | July 2005 |
| | AL03150201-0309-100 | Pathogens | September 2009 |
| UT to Little Catoma Creek | AL03150201-0304-200 | Organic Enrichment Low Dissolved Oxygen | July 2005 |

The location of streams where a TMDL has been developed are shown in Figure 2-6.

Catoma Creek originates in southeastern Montgomery County and flows northwest through Montgomery County into Woodruff Reservoir located west of the City of Montgomery. The impaired portion of Catoma Creek is from the Alabama River upstream to Ramer Creek. This 23.2 mile segment was placed on the State's 303(d) use impairment list for organic enrichment in 1996 and pathogens in 2002. The drainage basin is approximately 358 square miles.

